

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application:	§	Examiner:
J. P. Verduijn	§	
Serial No.:	§	Group Art Unit:
Filed:	§	
For: Nanometer-Sized Molecular	§	Case Docket No.: 91A055
Sieve Crystals or Agglomerates	§	
and Processes for Their Production	§	June 3, 1996

Honorable Commissioner of Patents and Trademarks  
Washington, D. C. 20231

**PRELIMINARY AMENDMENT**

Dear Sir:

This application has been filed under 35 U.S.C. § 120 as a streamline continuation of patent application Serial Number 08/211,873, filed June 3, 1994. Claims 13 and 20-28 of that case were allowed, and claims 1-3, 5-12, and 14-18 were rejected.

Kindly amend the application as follows:

**IN THE CLAIMS**

Claim 18, part (b), line 2: cancel "; and" and substitute --, thereby forming a clear solution; and--.

**REMARKS**

As indicated above, the present application has been filed as a streamline file wrapper continuation of partly allowed patent application Serial Number 08/211,873, filed June 3, 1994, which in turn was based on PCT EP92/02386, filed October 23, 1992. The PCT filing was further based on national application GB 9122499.8, filed in the United Kingdom on October 23, 1991 and GB 9211745.6, filed in the United Kingdom on June 3, 1992.

Applicants hereby request that all prior art made of record in the parent application be made of record in this application as well, including United States Patent 4,642,226 (Calvert et al.) and United States Patent 3,702,886 (Argauer et al.).

Applicant also wishes to make of record in this application certain references which are of record in related copending application Serial Number 08/367,334, filed July 11, 1995. A completed form PTO-1449 and copies of the references are enclosed.

DE 1194828 discloses a process for preparing colloidal zeolite. A translation of this patent is in progress and will be forwarded to the United States Patent and Trademark Office when completed.

United States Patent 3,516,786 discloses faujasite zeolite materials, i.e., type X and type Y zeolites, having a particle size of 10 to 100 millimicrons. The zeolites

are prepared by mixing a solution of an alkali metal silicate and an alkali metal aluminate at a temperature of up to 10°C, aging the solution at a temperature of 20 to 50°C and crystallizing the aged slurry at a temperature of from 80 to 110°C. Small size crystallites are formed by including up to 20% by volume of a water miscible solvent such as methanol in the reaction mixture solutions prior to the crystallization step. The particle size distribution of the zeolite product is characterized in Table I as ranging from 30-80 millimicrons.

UK 1049363 discloses zeolite material having a particle size of less than 0.3 micron, preferably less than 0.1 micron and having an average particle size in the range of from less than 0.3 micron to less than 0.05 micron. The zeolite is prepared by subjecting a zeolite having an average particle size of about 1 to 10 microns to attrition such as in a ball mill.

JP 7042996 (abstract) discloses a zeolite A having a mean particle size of 0.1 to 1.0 microns.

JP 1153514 (abstract) discloses an antibiotic zeolite having a particle size of less than 0.4 microns. The zeolite is manufactured by preparing a slurry containing aluminum compounds, silicone compounds, and alkali metal compounds, forming the zeolite at a temperature below 40°C and growing the zeolite crystals at a temperature above that used in the forming step of the process.

United States Patent 4,606,901 discloses a process for preparing a ZSM-5 type zeolite comprising reacting sources of alkali metal oxide, an oxide of silicon, and an organic cation in aqueous medium, forming the crystallization product and then adding a basic solution to the non-separated crystallization product in order to effect deagglomeration of said zeolite.

United States Patent 4,801,476 discloses a coating of micron-sized colloidal particles of ZK-5 zeolite on a substrate surface.

United States Patent 5,318,766, filed in the United States on September 25, 1992 and assigned to Exxon Research and Engineering Company, discloses a process for preparing a nano-crystalline zeolite having a mean diameter of less than 30 nanometers comprising forming a reaction mixture containing water, a silica source, an alumina source, KOH, NaOH, and ammonia, and maintaining the reaction mixture between 70°C and 160°C under autogeneous pressure until crystals having a mean diameter of less than 30 nanometers are formed.

Respectfully submitted,

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